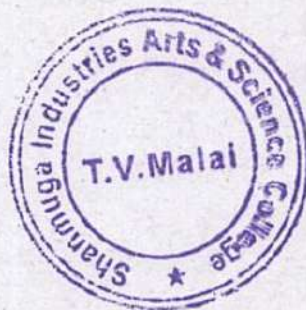


18. Discuss the methods for microbiological analysis of potable water and the importance of chemical disinfection, filtration, and UV light treatment.
19. Write an essay on bioaerosols – their sources, impact on human health, methods of sampling, and control measures.
20. Describe in detail the quality control processes in food and pharmaceutical industries, highlighting key approaches to quality assurance.



APRIL/MAY 2025

**23PSMB44 — MICROBIAL QUALITY
CONTROL AND TESTING (SEC III)**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is quality assurance in microbiology?
2. Define Total Quality Management (TQM).
3. What is meant by wastewater harvesting?
4. Mention any two characteristics of industrial wastewater.
5. What is the MPN test?
6. Name two methods used to test portability of water samples.
7. Define bioaerosols.
8. What is a HEPA filter?
9. What does PPE stand for in food quality control?
10. Mention two quality control methods used in pharmaceutical industries.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the concept of quality control techniques in microbiology.

Or

- (b) Describe the role of Quality Assurance (QA) in microbial testing.

12. (a) Write a note on characteristics and microbiological analysis of wastewater from sugar and paper industries.

Or

- (b) Discuss the importance of waste water treatment plant processes.

13. (a) Explain the procedure for enumeration and isolation of microorganisms from water samples using the membrane filter technique.

Or

- (b) Write short notes on water-borne diseases and methods to control them.



14. (a) Describe air sampling methods used for microbial quality testing in pharmaceutical industries.

Or

- (b) Write short notes on the control measures of bioaerosols.

15. (a) Discuss the role of Food X-ray inspection and IoT sensors in food quality control.

Or

- (b) Explain the quality assurance framework for pharmaceutical products.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail Total Quality Management (TQM) and its importance in microbiological quality control.

17. Describe wastewater microbiology, including types of sources, contamination, prevention, and quality control.